phase as that of the locally generated replica. If detected, the code is acquired and tracked, and the pseudorange information may be retrieved from which the position of the receiver may be calculated using conventional navigation algorithms.

A1

Page 3, in the paragraph beginning on line 31, please amend as follows:

The present invention will now be described, by way of example only, of an embodiment of a mobile cellular telephone comprising a GPS receiver for use in a cellular telephone network with reference to the accompanying schematic drawings in which:

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Figure 1 shows the geographic layout of a cellular telephone network;

Figure 2 shows the mobile cellular telephone MS1 of figure 1 in greater detail;

Figure 3 shows the base station BS1 of figure 1 in greater detail; ~~and~~

Figure 4 shows the GPS receiver and processor of the mobile cellular telephone MS1 in greater detail~~.~~; and

Figure 5 shows a flow chart of a preferred embodiment of the present invention.

Page 7, in the paragraph beginning on line 3, please amend as follows:

In accordance with the present invention, the GPS processor 25

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A3

of mobile telephone MS1 may acquire incoming GPS signals in a manner as described in any one of the following examples:

Figure 5 shows the steps of despreading first and second GPS spread spectrum signals received by a GPS receiver.

Page 7, in the paragraph beginning on line 15, please amend as follows:

A4

The GPS receiver samples 100ms of GPS signals and then, using the satellite information provided by the base station, the GPS processor 25 employs a conventional early-minus-late correlation architecture in an attempt to acquire the GPS signals. Using a 10ms portion of the 100ms worth of GPS signal sampled, the GPS processor 25 sweeps only a narrowed range of frequencies in which the target PRN code is known to occupy and in doing so manage to acquire two GPS signals having a relatively strong signal-to-noise ratio. This may occur where, for example, the respective GPS satellites are in direct view of the GPS receiver ~~though~~through windows in the building. Then, having completed an unsuccessful sweep for the remaining GPS signals, two further being required to obtain a position fix, the GPS receiver employs a modified acquisition process in which:

Page 7, in the paragraph beginning on line 27, please amend as follows:

(1) Using one of the signals currently acquired, the GPS

processor 25 measures the variation in frequency of that signal as observed by the GPS receiver throughout the 100ms GPS signal sample. This may be done by either repetitively acquiring that signal using say several 10ms dwells throughout the 100ms sample sequence; or having acquiring that signal using an initial 10ms part of the 100ms sample sequence, tracking that signal ~~though~~through the 100ms sample sequence. The variations are typically attributable to local oscillator drift, the reference to which the frequencies are measured by the GPS receiver, and variations in Doppler shift attributable to both handset and satellite movement.

Page 8, in the paragraph beginning on line 5, please amend as follows:

(2) The frequency variation profile may be modified to exclude those frequency variations attributable to Doppler shift caused by the movement of the satellite associated with the acquired signal which can be readily calculated from empheris data provided by the base station or from a previously acquired GPS signal, a position estimate such as one based on a last known position fix or a position fix provided by the communications base station, and a knowledge of GPS time which may be derived from one GPS satellite and a position fix estimate.

Page 9, in the paragraph beginning on line 11, please amend as

follows:

As an alternative to the early-late correlation method, fast convolution methods and in particular, involving Fast Fourier Transforms (FFTs), may be used in order to acquired the PRN codes. Such convolution methods are described in a paper entitled "FFT processing of direct sequence spreading codes using modern DSP microprocessors" by Robert G Davenport, IEEE 1991 National Aerospace and Electronics Conference NAECON 1991, volume 1, pages 98 to 105, and also in US granted patent 5,663,734. The method of the present invention is equally ~~is~~ applicable to such convolution methods at least in that any carrier could be stripped from the signal as described above, before the FFT convolution was carried out.

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